

# Logic Pro 7 Power!

## Logic Pro 7.1 Addendum

In April, 2005, Apple Computer updated Logic Pro 7 to Logic Pro 7.1. This upgrade offered far more than simply bug fixes and a few minor adjustments. Logic Pro 7.1 included some features users had been hoping would be added for quite a while, as well as some unanticipated (and welcome!) additional features. In many ways, Logic Pro 7.1 not only fulfilled users' expectations, but surpassed them—not an easy feat!

Since *Logic Pro 7 Power!* was published months before the introduction of Logic Pro 7.1, the book doesn't include any of the new 7.1 features. As a "thank you" to those of you who purchased my book—and to the Logic users community in general—I have written this short addendum to my book. This addendum is not intended to cover all the new features and changes in Logic Pro 7.1. Instead, it is designed to introduce a few of the most exciting and useful new additions, along with practical workflow advice.

### DOCUMENTATION INCLUDED WITH LOGIC PRO 7.1

Logic Pro 7.1 comes with three PDF documents: a 28-page document entitled "What's New in Logic Pro 7.1," along with a 16-page document called "Late Breaking News," and a 220-page reference for the Control Surface support in Logic Pro 7.1. Needless to say, there's no way this short addendum is going to cover 264 pages worth of information! Please refer to these documents for the complete list of new and improved features in Logic 7.1, as well as general reference information for how to use all the new additions.

## Protect MIDI Checkbox in Beat Mapping Track

Global Tracks, new to Logic Pro 7, are described in Chapter 5 of *Logic Pro 7 Power!* The section on the Beat Mapping Track that begins on page 136 explains how to use the Beat Mapping Track to create a musically meaningful tempo map based on your performance. Once your Beat Mapped tempo map is complete, any existing MIDI data and subsequent MIDI recordings will follow this tempo map.

However, sometimes you may not want your MIDI data to be moved. For example, you may have created a tempo map to a video, or from a live audio performance, and while you want to use the new Beat Mapped tempo map for subsequent audio recordings, you may already have MIDI data at desired points in your song, and you don't want this data to be moved.

Logic Pro 7.1 introduces a new Protect MIDI checkbox in the Parameter Box of the Beat Mapping Track, shown here in Figure 1. With this box checked, existing MIDI events will retain their current positions when using beat mapping. In other words, you can now create tempo maps using Beat Mapping without worrying about marring your existing MIDI tracks!

**Figure 1**

With the new Protect MIDI checkbox in the Beat Mapping Track, existing MIDI events will retain their current position when you create a new tempo map using beat mapping.



## Hiding the Local Menu Bar and Scroll Bar in Screensets

Logic Pro 7.1 allows you to hide the local menu bar and the scroll bars of windows, as shown in Figure 2, by clicking in the window's title bar with **OPTION + COMMAND** held down. Moreover, this can now be saved with your screensets, and windows will recall their local menu and scroll bar status when closed and re-opened.

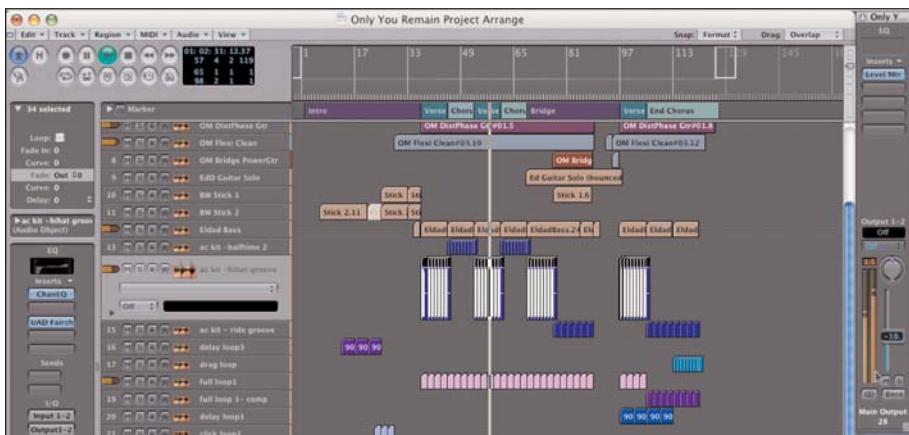
## ⌘ Add Resulting Files to Audio Window Checkboxes



**Figure 2**

Hold **OPTION + COMMAND** down while clicking on the title bar of a window to hide the local menu and scroll bars.

This is particularly useful if you want to create a custom environment of buttons and faders, or something I love to do: create a screenset with a floating Output strip next to the main Arrange window. To open a Track Mixer as a floating window, hold the **OPTION** key down while opening the Track Mixer via menu or key command. Then resize the window to show just the channel strip or channel strips you want, and **OPTION + COMMAND + CLICK** on the Track Mixer title bar. Figure 3 shows the result.



**Figure 3**

Logic Pro 7.1 now allows you to create a screenset with a floating, local menu-less, and scrollbar-less window, such as this screenset with a floating Output channel strip next to the Arrange window.

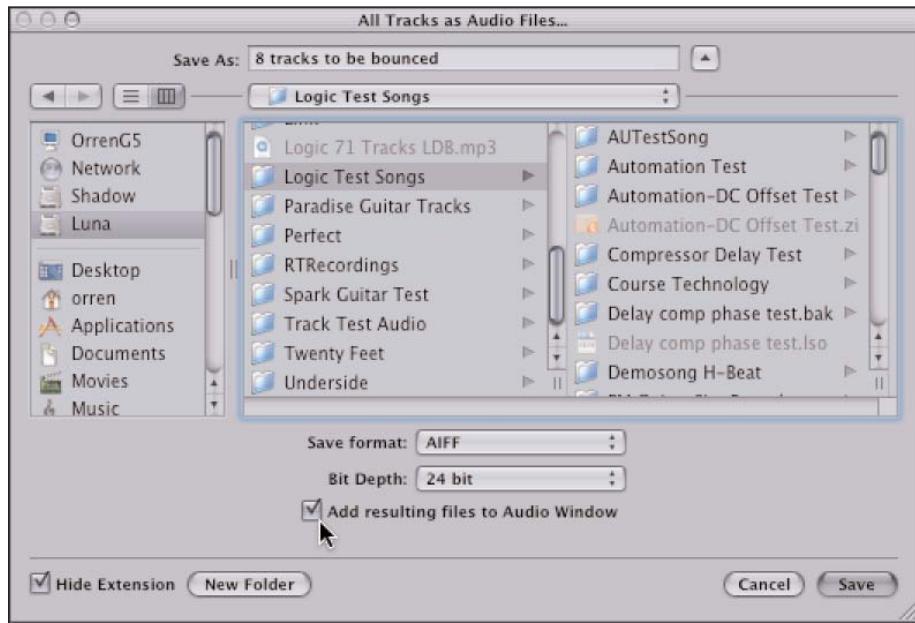
## Add Resulting Files to Audio Window Checkboxes

An extremely useful new checkbox has been added to a number of file dialogs in Logic Pro 7.1: "Add resulting files to Audio Window." Figure 4 shows the **Export > All Tracks as Audio Files** dialog with this new checkbox.

This checkbox has been added to all the Export, Save, and Copy/Convert dialogs in the **File > Export** submenu, and the relevant local menu commands in the Sample Editor, Arrange window, and Audio window. Whenever you select an export, save, or copy/convert command and check the "Add resulting files to Audio Window" checkbox, Logic Pro 7.1 will add the audio file to the Audio window of your Logic project in addition to creating the file on your hard drive.

**Figure 4**

File dialog boxes that allow you to save/convert files now offer the Add resulting files to Audio Window checkbox.



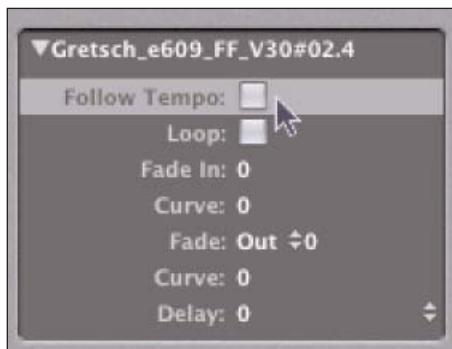
This is incredibly convenient if you are exporting tracks so as to create a copy of them with effects printed and wish to re-import and use them in the same Logic project. This is also very useful if you want to process or save new regions in the Arrange window or Sample Editor, convert file formats in the Audio window, and so on, and re-import the resulting files. Previously, you would have had to search for the newly created files in the Finder and manually add them to Logic—now this can be done automatically, with the simple check of this box!

## The Follow Tempo Function

Without a doubt, Follow Tempo stands as one of the most exciting new features introduced in Logic Pro 7.1. In short, this allows any audio that you record in Logic Pro 7.1 to speed up or slow down according to your song's tempo (or even tempo map). Your audio can also follow the first key signature set by your project. Logic does this by using the song tempo and initial key signature information of the project to tag the recorded audio.

To activate the Follow Tempo function for a given audio file, check the Follow Tempo checkbox in the Region Parameter Box for an audio region. This checkbox is shown in Figure 5.

Once you check this box, every audio region that uses that audio file will follow any tempo changes and the first key signature of your Logic project. All recorded audio defaults to Follow Tempo being off, so that you will not find your audio suddenly changing tempo without your permission!



**Figure 5**

Checking the Follow Tempo button will activate Follow Tempo for the checked region, and all other regions from the same audio file.



### FOLLOW TEMPO AFFECTS THE ENTIRE AUDIO FILE

Let me just emphasize one more time that the Follow Tempo function, while available in the Region Parameter Box, is actually a file function. Once you turn it on for a region, all regions from that audio file will follow the tempo. By the same token, if you turn Follow Tempo off for one region, it will turn off for every region from that audio file. Currently, there is no way to have Follow Tempo on for one region from an audio file and off for a second region from the same audio file.

What can you do if you want some regions from an audio file to follow the song's tempo and not others? In that case, I'd suggest making those regions you wish to follow the tempo into separate audio files, and then turning those files into Apple Loops. Luckily, Logic Pro 7.1 also introduces an easier way to make Apple Loops, which is explained in the next section.

You can easily identify those audio regions that have Follow Tempo enabled by their two-way arrow icon on their title bar, as shown in Figure 6.

Follow Tempo only works with audio that you record in Logic Pro 7.1, or that you bounce or export from Logic Pro 7.1 with the "add to Audio Window" check box in the bounce or export dialog box checked. In other words, only audio that Logic Pro 7.1 records, bounces, or exports can be tagged with song tempo and first key signature information. This means that audio recorded, bounced, or exported from previous versions of Logic and in other applications will not have the Follow Tempo button shown in Figure 5.



**Figure 6**

Audio regions with Follow Tempo enabled gain a two-way arrow icon in their title bar.

However, since the Follow Tempo function does work if you bounce or export tracks if you check the “Add to Audio Window” box, you can easily use this to add Follow Tempo functionality to audio tracks that wouldn’t otherwise have it. To do this, simply open your old Logic project in Logic Pro 7.1, or import your audio files from another audio application into a new Logic Pro 7.1 project, and then select **File > Export > All Tracks as Audio Files**. Be sure to check the “Add to Audio Window” box in the file dialog. Once exported, you will find all the exported audio files in the Audio Window. Simply replace the regions pointing to the old audio files with regions pointing to the new audio files, and all your new files will now have the Follow Tempo checkbox in their Region Parameter Boxes.

As with any form of time stretching, the quality of the time stretching results you will get with Follow Tempo will depend on a number of factors, such as the original timing of the recorded audio, how drastically you attempt to change the tempo from its original recorded tempo, how accurate the timing of the original performance was, and so on. In other words, let’s say your initial audio was a piano performance with excellent timing at 120bpm. If you check the Follow Timing box and subsequently speed your project up to 140bpm, the audio should sound very good and artifact-free at the new tempo of 140bpm. However, let’s imagine that your starting file is a piano performance, also recorded at 120bpm, but it was performed very sloppily and often off-tempo. If you check the Follow Timing button and attempt to slow it down to, say 70bpm, the result will most likely be unusable. Also be aware that the Follow Tempo function does not time stretch your audio using manually determined, musically relevant transients, like an Apple Loop. It simply time adjusts the entire audio file based on the tagged tempo information, just as if you used a time stretching algorithm on the entire file.

## Apple Loops Handling

Some very welcome improvements have been added to Logic Pro’s support of Apple Loops in this update. Apple Loops are discussed in detail in Chapter 8 of *Logic Pro 7 Power!* beginning on page 276. Please refer to the book for general information on Audio and MIDI Apple Loops and Logic Pro’s previous support of Apple Loops.

## Automatic Sample Rate Conversion of Apple Loops

This feature may not be as “sexy” as some of the other new features I discuss in this addendum, but it’s one of the most useful. Almost all commercial Apple Loops have a sampling rate of 44.1kHz. If all your Logic projects happen to be at 44.1kHz, this isn’t a problem. But if you do music for video, you’ll almost always be working at 48kHz. DVD-Audio producers often prefer to work at 96kHz. And with computer power increasing all the time, many users are choosing to explore the highest sampling rates, up to 192kHz. If you tried to drag an Audio Apple Loop into your project (or a MIDI Apple Loop into an Audio track) its sample rate would be incorrect, and it would not play correctly. The converse is also true—if you made your own Audio Apple Loops at another sample rate, and tried to play them in a 44.1kHz song, they would not play correctly.

Now, Logic will automatically convert your Apple Loops to the sampling rate of your Logic project! This works for Apple Loops already in your project if you change the sampling rate of your song, for Apple Loops you add from the Add File dialog, or for Apple Loops you drag into your song from the Finder or the Loop Browser. You don’t have to do anything—it just works. And it works for both Audio Apple Loops and MIDI Apple Loops you drag to Audio Tracks.

## Importing ReCycle Files as Apple Loops

You now have the option of importing ReCycle Files (known as REX or REX2 files) into Logic Pro 7.1 as Apple Loops, instead of importing them only as audio or REX files. There are two ways to do this:

If you are dragging single REX files into the Arrange window from the Finder, or if you are pasting a REX file from the clipboard, you will be presented with the ReCycle File Import dialog, shown in Figure 7.



**Figure 7**

The ReCycle File Import dialog.

A new option has been added to the Fix menu called “Render into Apple Loop.” To convert your REX file into an Apple Loop, choose this option, as shown in Figure 8. This will create a new Apple Loop file with the slice divisions of the REX file becoming the transient points for the Apple Loop, and the tempo of the REX file becoming the original tempo for the Apple Loop.

**Figure 8**

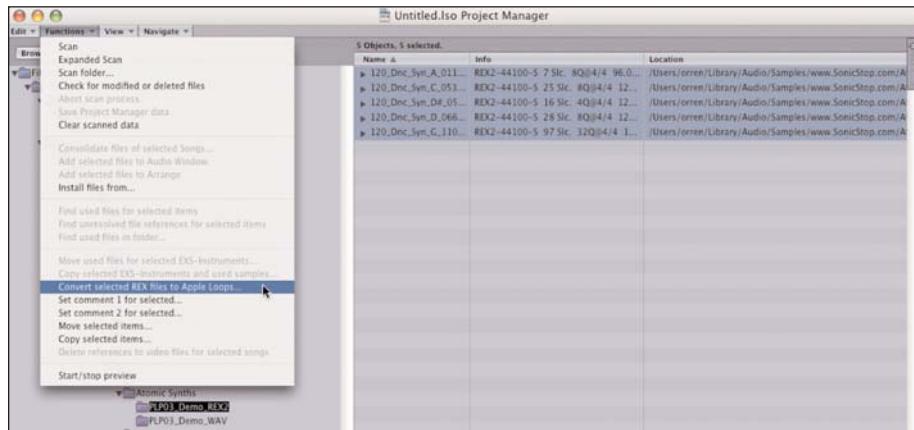
Choose the “Render into Apple Loop” option in the Fix menu to convert your REX file into an Apple Loop.



If you want to convert multiple ReCycle files into Apple Loops, the Functions local menu in the Project Manager has a new command, Convert selected REX files to Apple Loops. Simply select all your REX files in the Project Manager browser, and select this command to batch convert your REX files into Apple Loops, as shown in Figure 9.

**Figure 9**

Select **Functions > Convert selected REX files to Apple Loops** to convert multiple ReCycle files into Apple Loops.





## TO CONVERT OR NOT TO CONVERT?

Of course, now that Logic Pro 7.1 will allow you to convert ReCycle files into Apple Loops, the question is, is it advantageous to do so?

To answer this, you need to consider how Apple Loops adjust the audio to the song tempo versus how REX files adjust the audio to the song tempo. REX files consist of multiple slices of audio in one REX loop. The REX file adjusts to changes in tempo by moving the slices closer together or farther apart. This means that at extreme tempo adjustments, there might be audible silence between audio slices. Apple Loops consist of audio loops in which musically or temporally relevant transients in the loop have been tagged. The Apple Loop then stretches or compresses the audio at those transient points. This means that at extreme tempo adjustments, there might be noticeable stretching artifacts.

So if your loop includes some silence or dropouts between the relevant audio, such as a drum loop with clearly delineated drum instruments, keeping your loop in the REX format is probably best, since this will never stretch your beat unnaturally. On the other hand, if your loop consists of steady sound, such as a bass or synth groove, converting your loop to an Apple Loop is probably best, because this will never create an audible silence between the notes.

## Add to Apple Loops Library Command

Perhaps the most obvious change in Apple Loop handling is that you can now create Audio and MIDI Apple Loops directly within Logic Pro 7.1 itself. Saving an Audio or Audio Instrument region as an Apple Loop is very straightforward: simply select the region and choose the new “Add to Apple Loops Library” command in the Region local menu of the Arrange window. Choosing this command will present the Add Region to Apple Loops Library dialog shown in Figure 10.

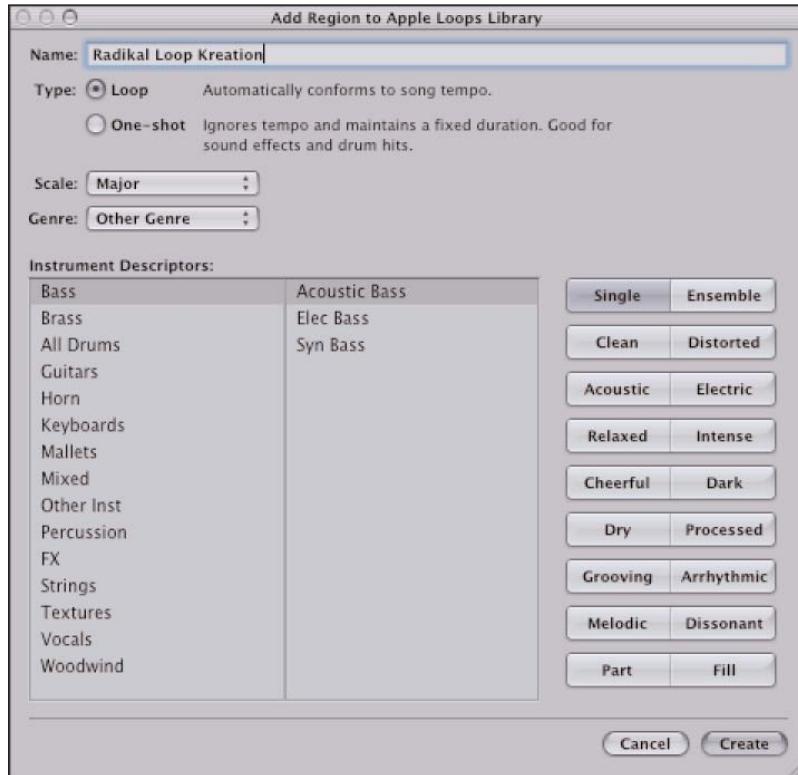
In this dialog, first click in the appropriate **Type** radio button to configure your Apple Loop to be a **Loop**, which will follow the song’s tempo and key, or a **One-shot** Apple Loop, which will not follow the song’s tempo and key. One-shot loops are useful if you are turning a sound effect or ambient sample into an Apple Loop in order to use the Loop Browser categories to organize your sound effects/ambient library but you don’t want these loops to change with your Logic project.

Next, choose a **Scale** for your Apple Loop.



**Figure 10**

You will be presented with the Add Region to Apple Loops Library dialog if you select an Audio or Audio Instrument region and choose **Region > Add to Apple Loops Library**.



### REGIONS MUST BE EXACT BEAT LENGTHS TO LOOP

If you select a region that is not an exact bar or beat length and select the “Add to Apple Loops Library” command, you will find that the *Loop* radio button is grayed out. This is because Logic will only allow you to loop a region that is an exact number of bars or beats long. If you want to make a region into a looping type of Apple Loop but the option is unavailable due to the length of the region, you have two options.

First, you can trim the region to an exact bar or beat length. Then you will be able to select *Loop* as the **Type** of Apple Loop. This is the simplest method for making a region “loopable.” Depending on the material in the region, however, this may result in desired data inside the original region being trimmed away.

If you want to maintain the current length of the region and still have it fall on an exact bar or beat, you will need to select the region and choose the “Adjust Tempo Using Region Length and Locators” command in the global **Options > Tempo** menu. This command will change the tempo of your song to match the length of the selected region. Once you do that, the length of each bar and beat will change to fit your region, so your region will have an exact bar and/or beat length. Now you can select the “Add to Apple Loops Library” command and choose *Loop* as the **Type** of Apple Loop. Keep in mind that this option changes the timing of your entire Logic song, so after saving the loop, you will most likely need to Undo the “Adjust Tempo Using Region Length and Locators” command, or otherwise return the song tempo to its previous state.

Finally, choose the descriptors that will help you categorize and search for your loop, such as **Genre**, **Instrument Descriptors**, and **Mood**. You don't have to select these, but if you don't, you'll be stuck with Logic's defaults—and you may just find your guitar lick identified as a bass groove!

While the new Add to Apple Loops Library command is the most convenient way to create Apple Loops within Logic—and it is the only way you can create MIDI Apple Loops from Audio Instrument regions—it is not necessarily appropriate for all situations. When you create an Apple Loop this way, Logic automatically uses the beat divisions as the transient markers for the Apple Loop. This means that when the Apple Loop stretches and compresses to match the song tempo, it will do so using the beat divisions as its relevant points.

This works well for straightforward performances in which the musically relevant transients fall on the beat divisions. For performances in which the musically relevant points do not fall on the beat divisions, you may get better results if you set your own transients for the Apple Loop. As of this writing, the only way to set transients yourself is to open the region in the Apple Loops Utility, which is explained starting on page 280 of *Logic Pro 7 Power!* Note that this only works for Audio Apple Loops; for MIDI Apple Loops, you will have to edit the MIDI data in a MIDI editor so that the data falls on the beat divisions to ensure the region will loop properly.

## Hand Tool in the Track Mixer and Arrange Channel Strip

This is one of those additions that—after you've tried it once—will instantly become part of your workflow! Chapter 8 of *Logic Pro 7 Power!* explains how you can move effects between Inserts and channel strips in the Audio Configuration window using the Hand Tool. That tool has now been added to the Track Mixer!

To rearrange effects in the Track Mixer, select the Hand Tool in the Toolbox of the Track Mixer, or press the COMMAND key to select the second tool (which, since the Track Mixer only has two tools, is the Hand Tool by default), click-hold on an instantiated insert effect and you can now drag insert effects from one Insert slot to an Insert slot on the same or another channel strip, as shown in Figure 11. To place the effect in the new slot, simply release the mouse button.



**Figure 11**

Using the Hand Tool in the Track Mixer, you can drag insert effects from one Insert slot to another.



When moving an effect from one Insert to another, the destination Insert slot will be outlined in orange to make it easy for you to see where the effect will be added. You can also add an effect between two used Insert slots. To do this, drag an effect between two Insert slots, and the orange outline will appear between the two Insert slots. When you release the mouse button, the effect you were moving will be added directly below the orange line, and all the other effects will be shifted down one slot.

If you move an effect down more than one Insert slot on the same channel strip, the effects between the original position and the new position of the effect will move up by one Insert. If you move an effect up more than one Insert slot on the same channel strip, any effects between the original and new position of the effect will move down by one Insert. Logic Pro still offers a total of 15 Inserts per channel strip, so you cannot create more Inserts than are allowable by rearranging effects this way.

If you wish to copy rather than move an effect, hold down the **OPTION** key while dragging the effect. The original effect will be left alone, and a complete duplicate of the original effect, including all settings and sample instruments, will be inserted into the destination Insert slot.

You can also move and copy Insert effects on the Arrange channel strip as well! Simply press the **COMMAND** key while the cursor is over an Insert slot, and the Hand Tool will appear just as in the Track Mixer. You cannot move or copy effects between channel strips in the Arrange window, however. You can only move or copy effects between Insert slots on the current channel strip showing in the Parameter section.

## Full Plug-in Delay Compensation

Perhaps the most anticipated new feature in Logic Pro 7.1 is its inclusion of plug-in delay compensation for busses, auxes, outputs, and ReWire channels. Chapter 12 of *Logic Pro 7 Power!*, “Mixing in Logic,” explains the concept of plug-in delay. Previously, Logic allowed you to check a box to activate plug-in delay compensation for Audio and Audio Instrument tracks. This method of delay compensation worked by shifting the regions of tracks with delay-causing plug-ins; if a plug-in delayed a region by a certain number of samples, Logic would automatically compensate by shifting all regions on the track with the delay causing plug-in(s) backwards (earlier) so that it would remain in sync with the non-delayed audio regions.

Now, Logic offers the pull-down menu shown in Figure 12, which offers you a choice between All (compensation of busses, auxes, outputs, Audio and Audio Instrument tracks, and ReWire channels); Audio Track and Audio Instrument plug-in delay compensation only; or no delay compensation at all.



**Figure 12**

The Plug-in Delay Compensation pull-down menu, with its “All” compensation option, is new for Logic Pro 7.1.

When you select All in the Plug-in Delay Compensation preference, the compensation technique for regions of the Arrange window remains the same, but now Logic automatically delays, by the largest amount of delay of any single stream, all other audio streams running parallel to Bus, Aux, Output, and Rewire objects so that all audio streams remain in perfect sync. Full plug-in delay compensation works completely seamlessly—simply activate it when you are mixing, and you can use any plug-in, on any Audio or Audio Instrument track, Bus, Aux, Output, or ReWire object, and all your audio will remain in perfect, sample-accurate sync, regardless of the delay caused by various plug-ins. If you insert a delay-causing plug-in on the fly during playback, Logic may not adjust to the new plug-in delay quickly enough. If that happens, stop playback, then begin playback again. Everything will be in sync.

### Limitations to Plug-in Delay Compensation

There are a few limitations to plug-in delay compensation that you need to understand. First, as I explain in *Logic Pro 7 Power!*, plug-in delay compensation is a *playback only* feature. If an audio track is on hard disk, or if the audio stream to the bus is coming from another audio channel, Logic can apply delay before the audio stream plays back. But if the audio is streaming live, there is no way for Logic to delay it to match the delay of the other audio channels. This means that if you try to record through plug-ins that cause delay, your track will not be compensated, even if plug-in delay compensation is on. However, if you don't wish to record through delay causing plug-ins, you can still record audio in "All" plug-in delay compensation mode; just make sure software monitoring is off, so you are *not* monitoring through Logic. Logic will automatically line up your audio after you record it.

Also, while in All plug-in delay compensation mode, Logic Pro 7.1 advances all the audio streams by the number of samples necessary for all audio to be in sync, the graphics are not advanced. So depending how much compensation Logic is doing internally, you may find that channel strip and plug-in meters, and possibly even QuickTime Video being played back with your Logic song, might appear out of sync with the audio. These graphic issues have no effect on your audio at all, but can be a bit disconcerting if you're not expecting it. Hopefully, this will be addressed in a future update to Logic; until then, just be aware that if you notice that some graphic elements aren't

quite matching up with the audio, it's the nature of Logic's **All** compensation mode.

Finally, you need to be aware that Apple designed its **All** plug-in delay compensation mode as a "mixing" mode. Since Logic advances the audio streams in order to maintain sync, if you attempt to record audio or MIDI while in **All** compensation mode, you may run into problems, depending if you have instantiated any delay causing plug-ins. If you are using plug-ins that cause delay, Logic will advance the audio to compensate for the delay during playback—so when you record, you will be listening to audio that is a number of samples advanced from the original song start point. This means that your recorded performance will be "off the grid" by the number of samples the audio stream was advanced. If you then subsequently change the amount of delay compensation that Logic is doing by adding, exchanging, or removing delay-causing effects, the originally recorded tracks will be automatically compensated for this change in delay...but the audio or MIDI you recorded to the previous level of delay compensation will be out of time.

There are two techniques to get around this limitation. The first—and simplest—is to keep plug-in delay compensation set to **All**, and simply never record any audio or MIDI once you start inserting plug-ins that cause delay. This has the advantage of being 100 percent foolproof, and allows you to leave plug-in delay compensation set to **All**. Of course, if you like to record and mix as you go, this may require an unacceptable change in working methods.

The second technique is to keep plug-in delay compensation set to **Audio Tracks and Audio Instruments** until final mixdown. This compensation method does not advance tracks to keep the audio streams in sync, but instead applies a negative sample delay to those regions that have delay. This means that in **Audio Tracks and Audio Instrument** mode, you can still record and everything will be in sync. A limitation of this technique is that you can only insert delay-causing plug-ins on Audio Tracks and Audio Instrument tracks until final mixdown, but this is better than no channels being delay compensated at all. Logic tries to make this technique as easy to use as possible by including key commands to switch between plug-in delay compensation modes, so you don't need to break your workflow by mousing around in the Audio Preferences window. And at least we finally have a full delay compensation mode for mixdown!



This is a sampling of how to get the most out of some of the new features in Logic Pro 7.1. Please read the "What's New in Logic Pro 7.1" PDF for the complete list of additions, and of course please see my book *Logic Pro 7 Power!* for a full tutorial on how to get the most out of Logic Pro 7!